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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/715,186

11/17/2003

Lawrence Conaway

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3338

7590

05/09/2006

Robert C. Brown
1207 Sandhurst Drive
Tallahassee, FL 32312

EXAMINER

REIFSNYDER, DAVID A

ART UNIT

PAPER NUMBER

1723

DATE MAILED: 05/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/715,186

Applicant(s)

CONAWAY ET AL.

Examiner

David A. Reifsnyder

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-25 and 27-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-25 and 27-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 6-16, 23-25 and 27-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over SU 1685534 A1 in view of Sadeghi et al.

Regarding claims 1-4, 6-16, 23-25 and 27-33; SU 1685534 A1 discloses a method of separating bitumen from tar sands; comprising the steps of mixing said bitumen and tar sands with water to form an aqueous slurry; tempering said slurry to a temperature of between about 70°C and 80°C; **shearing** said slurry by agitation for at least **one minute**; adding hydrogen peroxide and sodium carbonate (i.e. sodium bicarbonate) to make the aqueous slurry an alkaline aqueous slurry; forming oxygen bubbles between said bitumen and said sand by decomposing a portion of said hydrogen peroxide therein; and separating said bitumen from said sand. (see pages 4 and 5 of the PTO 2005-5020 translation of SU 1685524); however, SU 1685534 A1 fails to disclose that the shearing by agitation is done using a **rotary mixer**.

Regarding claims 1-4, 6-16, 23-25 and 27-33; Sadeghi et al. discloses a method of separating bitumen from tar sands; comprising the steps of crushing said tar sands (col. 5, lines 44-48); mixing said bitumen and tar sands with water to form an aqueous slurry; tempering said slurry to a temperature of about 45°C- 55°C; adding benzoyl peroxide, (see col. 20, lines 24-25; and col. 21, lines 18-20) sodium phosphate, sodium hydroxide, and sodium carbonate (i.e. sodium bicarbonate) to raise the slurry pH above 7.0 (see col. 14, lines 31-33); **shearing** said slurry with a **rotary mixer** (see col. 5, line 60 to col. 6, line 11; col. 7, lines 20-38; col. 19, lines 7-16; col. 20, lines 19-50 and Example 1); for at least **one minute**; inherently forming oxygen bubbles between said

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bitumen and said sand by decomposing a portion of said benzoyl peroxide therein; and separating said bitumen from said sand.

It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention for SU 16855354 A1 to have used the rotary mixer as taught by Sadeghi et al in order to have sheared by agitation SU 1685534 A1's aqueous slurry because SU 1685534 A1 and Sadeghi et al. teach similar methods.

Regarding claims 4, 6 and 7; SU 1685534 A1 in view of Sadeghi et al. suggests a method of separating bitumen from tar sands as discussed above but fails to disclose further treating the removed clean tar sands layer. It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have further treated the tar sands layer if it still contained some bitumen. Furthermore, it is **well known in the separating art to duplicate (i.e. repeat) method steps.** Therefore, it is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have further treated the tar sands layer by repeating the method steps.

Regarding claims 8 and 9; SU 1685534 A1 in view of Sadeghi et al. suggests a method as discussed above but fails to disclose further treating the froth layer containing bitumen and oil. It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to further treat the froth layer containing bitumen and oil if it still contained sand. Furthermore, it is considered that it would have been obvious to one having ordinary skill in the art at the time of the

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invention to have further treated the froth layer containing bitumen, sand and oil the same way as it was treated the first time.

Regarding claims 29-31; SU 1685534 A1 in view of Sadeghi et al. suggests a method of separating bitumen from tar sands as discussed above but fails to disclose the step of treating his tar sands before said mixing step by sieving the sand in a rotary trommel. It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to sieve the sand to remove any large rocks and also make the tar sands finer so that it better reacts with the hydrogen peroxide.

Claims 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over SU 1685534 A1 in view of Sadeghi et al. further in view of Luft et al.

Regarding claims 17-22; SU 1685534 A1 in view of Sadeghi et al. suggest a method as discussed above but fails to teach increasing pressure to be a gauge pressure of 1 to 5 atmospheres. Luft et al. discloses a method of cleaning a medium contaminated with organic constituents which includes adding water to the soil to form an aqueous slurry, and adding hydrogen peroxide to the aqueous slurry while pressurizing said aqueous slurry at a pressure range of approximately 2 to 19 gauge pressure. (See claim 1 and convert bar to gauge pressure) It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have pressurized the slurry of SU 1685534 A1 in view of Sadeghi et al. as taught by Luft et al. because it is well known when cleaning things, to do so at elevated pressures. Furthermore, Luft et al, SU 1685534 A1 and Sadeghi et al. all teach similar methods.

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Claims 8, 9 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadeghi et al.

Regarding claims 8 and 9; Sadeghi et al. discloses a method as discussed above but fails to disclose further treating the froth layer containing bitumen and oil. It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to further treat the froth layer containing bitumen and oil if it still contained sand. Furthermore, it is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have further treated the froth layer containing bitumen, sand and oil the same way as it was treated the first time.

Regarding claims 29-31; Sadeghi et al. discloses a method of separating bitumen from tar sands as discussed above but fails to disclose the step of treating his tar sands before said mixing step by sieving the sand in a rotary trommel. It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to sieve the sand to remove any large rocks and also make the tar sands finer so that it better reacts with the benzoyl peroxide. Furthermore, a rotary trommel is a conventional type of mixing device.

Claims 1-4, 6, 7, 10-16, 23-25, 27-28, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadeghi et al. in view of Everett et al.

Regarding claims 1-4, 6, 7, 10-16, 23-25, 27-28, 32 and 33; Sadeghi et al. discloses a method of separating bitumen from tar sands; comprising the steps of crushing said tar sands (col. 5, lines 44-48); mixing said bitumen and tar sands with

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water to form an aqueous slurry; tempering said slurry to a temperature of about 45°C-55°C; adding benzoyl peroxide, (see col. 20, lines 24-25; and col. 21, lines 18-20) sodium phosphate, sodium hydroxide, and sodium carbonate (i.e. sodium bicarbonate) to raise the slurry pH above 7.0 (see col. 14, lines 31-33); shearing said slurry with a rotary mixer (see col. 5, line 60 to col. 6, line 11; col. 7, lines 20-38; col. 19, lines 7-16; col. 20, lines 19-50 and Example 1) for at least one minute; inherently forming oxygen bubbles between said bitumen and said sand by decomposing a portion of said benzoyl peroxide therein; and separating said bitumen from said sand; however, Sadeghi et al. fails to disclose using hydrogen peroxide instead of benzoyl peroxide and further treating his removed clean tar sands layer.

Regarding claims 1-4, 6, 7, 10-16, 23-25, 27-28, 32 and 33; Everett et al. teaches cleaning soil contaminated with oil which includes adding an aqueous hydrogen peroxide solution to the soil to form an aqueous slurry that includes either benzoyl peroxide or hydrogen peroxide. (claim 14) Therefore, since Sadeghi et al. and Everett et al. disclose similar processes, it is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention for Sadeghi et al. to have used hydrogen peroxide instead of benzoyl peroxide. In addition, it is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention for the method as suggested by Sadeghi et al. in view of Everett et al. to further treat the tar sands layer if it still contained some bitumen. Furthermore, it is well known in the separating art to duplicate (i.e. repeat) method steps. Lastly, it is considered that it would have been obvious to one having ordinary skill in the art at

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the time of the invention to have further treated the tar sands layer by repeating the method steps.

Regarding claim 11; Sadeghi et al. discloses a method as discussed above which includes tempering said aqueous slurry to about 45°C but fails to disclose tempering said aqueous slurry to about 80°C. Regarding claim 11; Everett et al. discloses a method of cleaning soil contaminated with oil which includes adding an aqueous hydrogen peroxide solution to the soil to form an aqueous slurry, while tempering said aqueous slurry to a range of temperatures which includes a temperature of about 80°C . It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have tempered the aqueous slurry of Sadeghi et al. as taught by Everett et al. because it is well known when cleaning things that the hotter the water, at least up to boiling, the better. Furthermore, Everett et al. and Sadeghi et al. teach similar methods.

Claims 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadeghi et al. in view of Luft et al.

Regarding claims 17-22; Sadeghi et al. discloses a method as discussed above but fails to disclose increasing pressure to be a gauge pressure of 1 to 5 atmospheres. Luft et al. discloses a method of cleaning a medium contaminated with organic constituents which includes adding water to the soil to form an aqueous slurry, and adding hydrogen peroxide to the aqueous slurry while pressurizing said aqueous slurry at a pressure range of approximately 2 to 19 gauge pressure. (See claim 1 and convert bar to gauge pressure) It is considered that it would have been obvious to one having

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ordinary skill in the art at the time of the invention to have pressurized the slurry of Sadeghi et al. as taught by Luft et al. because it is well known when cleaning things, to do so at elevated pressures. Furthermore, Luft et al. and Sadeghi et al. teach similar methods.

Response to Arguments

The applicants' state on page 9 of his remarks filed January 3, 2006 that: "The Examiner holds that benzoyl peroxide disclosed by Sadeghi is the functional equivalent of hydrogen peroxide and sodium peroxide in Applicants' invention." However, the Examiner has never stated that benzoyl peroxide is the functional equivalent of hydrogen peroxide and sodium peroxide. The applicants' have added the limitation to step d of claim 1 of adding **inorganic** peroxide to said slurry. Therefore, the 35 U.S.C. 102(b) rejection of claims 1-3, 12-16, 23-25, 27-28, 32 and 33 as being anticipated by Sadeghi et al. is withdrawn. The remaining arguments on pages 9-11 of the applicants remarks filed January 3, 2006 regarding the 35 U.S.C. 102(b) rejection of claims 1-3, 12-16, 23-25, 27-28, 32 and 33 as being anticipated by Sadeghi et al. are moot because the Examiner has withdrawn the rejection of claims 1-3, 12-16, 23-25, 27-28, 32 and 33 as being anticipated by Sadeghi et al.

The applicants' state on page 12 of his remarks filed January 3, 2006 that "independent Claim 1 is amended to recite that (step c) shearing is carried out for at least one minute prior to carrying out step d, which is the addition of peroxide to the slurry." The applicant continues on saying: "An examination of both SU and Sadeghi shows that neither of these discloses to shear the slurry for at least one minute prior to

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introduction of peroxide into the slurry" This is not a valid argument because as discussed above, the SU reference does in fact disclose: shearing said slurry by agitation for at least one minute before adding hydrogen peroxide, and the Sadeghi et. al. reference, as discussed above, does in fact disclose shearing said slurry with a rotary mixer for at least one minute (example 1). Furthermore, regarding the applicants remarks on page 12, lines 23-25; Sadeghi et al. is well aware of and teaches the need for high-intensity shearing of the slurry (see col. 5, line 60 to col. 6, line 11; col. 7, lines 20-38; col. 19, lines 7-16; col. 20, lines 19-50).

The applicants' argue in on page 15 of his remarks filed January 3, 2006 that the processes of Sadeghi et al. and Everett et al. are entirely different from the Applicants' claimed process and therefore the teachings of Sadeghi et al. and Everett et al. are irrelevant to the Applicants' invention. The examiner does not feel that the processes of Sadeghi et al. and Everett et al. are entirely different from the Applicants' claimed process. Furthermore, since Everett et al. teaches the use of hydrogen peroxide, Everett et al. does in fact teach the use of inorganic peroxide.

Conclusion

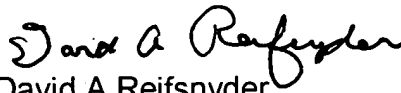
Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Reifsnnyder whose telephone number is (571) 272-1145. The examiner can normally be reached on M-F 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda M. Walker can be reached on (571) 272-1151. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David A. Reifsnyder
Primary Examiner
Art Unit 1723

DAR